MEMORANDUM FOR THE RECORD

SUBJECT: Speech Fabrication

1. The development of speech fabrication may be divided into four phases.

a. Determination of the desirability of CIA possessing such a capability.

b. Determination of the feasibility of speech fabrication and estimated cost.

c. Development and acquisition of the equipment for the fabrication of speech.

d. Development of the operational program for the proper utilization of the facility.

PHASE I

1. Phase one has been answered in the affirmative by individuals and divisions made aware, as of this date, of the possibility of speech fabrication, including the FE Division, the EE Division, TSS, and the Communications Working Group of the DD/P Materiel Board.

PHASE II

1. Phase two has been the subject of discussions within TSS and between TSS and operations personnel. Some progress has been made. Three possible solutions have been proposed: (1) The rearrangement of words on an original sound film track by cutting and splicing; (2) The rearrangement of words on an original magnetic tape recording by cutting and splicing; (3) Fabricating by hand on a clear film strip proper serrations of black and white after studying the original sound track; and (4) obtaining

imitators for persons whom it is desired to imitate.

2. Proposal (1) of cutting and splicing the original sound track appears feasible to the extent that words recorded on a sound film track can be rearranged by cutting out sections of the film containing the individual words and phrases and splicing them in the desired order. In such an altered recording individual words and phrases will sound exactly like the original speaker. The inadequacy of this system is the inability to change inflections and emphasis on individual words. A speaker will normally give the same word different emphasis when used at different times. To overcome this, such emphasis might be changed by shading proper sections of the original sound track or by raising or lowering the volume in re-recording the altered sound track.

3. The advantages and disadvantages of cutting and splicing an original speech recorded on tape, proposal (2), are similar to the cutting and splicing of an original sound track. It is to be noted that this system has been successfully used in the music field when it has been desired to exchange an imperfect note for a more perfect note found in another part of the recording.

4. Proposal (3) of painting by hand proper serrations on a clear film strip for the speech desired is theoretically possible but does present problems that may make it impractical from a cost and time standpoint. Sound film tracks have been examined in the CIA photographic laboratory and enlargements of syllables, words and sentences have been traced on paper and also on clear 35 mm film. Time and facilities at the CIA photo lab have not permitted the reduction of these hand tracings back to sound film track size to determine if these reductions

will reproduce the original sound. If the original sound is reproduced emphasis or de-emphasis should be possible by deepening or narrowing the serrations of specific words. If this system is feasible and not prohibitive in cost or time, it presents a method for obtaining good versimilitude of anyone's speech of which you have adequate samples. It is understood this system of drawing proper serrations by hand and recording them by the photo process has been accomplished in the music field.

5. Proposal (4) of obtaining imitators of the persons to be imitated would of course be the ideal method if such proficient imitators could be found. The problem here is the multiplicity of languages and the greater multiplicity of possible persons it might be desired to imitate.

6. It is believed that in proposals one, two and three the only foreign language requirement would be to have a person who speaks and understands the language to work with the technician on any given project. All area divisions have such linguists.

7. As a next step in Phase II it should be determined what progress has been made in this field by commercial or academic institutions including the U.S. Patent Office, Johns Hopkins University, RCA and Bell Telephone Laboratories. It is believed that considerable related background material will be found. However, this specific problem may never have been attacked because of a lack of a requirement.

PHASE III

In Phase III there are two ways of developing and acquiring any specialized equipment required. (1) CIA can give a commercial concern

a contract to resolve all the technical aspects of the problem and develop equipment for accomplishing the desired results; (2) CIA can design any specialized equipment required, based on information developed in Phase II and then different commercial concerns can be given contracts for the manufacture of different items required. If the latter procedure is feasible it will preserve more security for the Agency and will also give CIA personnel working on the project a thorough knowledge of the technical problems and an ability to adjust the equipment to changing conditions. This procedure should also be considerably less expensive.

PHASE IV

The operational development, Phase IV, would require close coordination of the technical and operational aspects of the program. It would require the DD/P to establish standards and procedures within technical limitations for the proper utilization of the facility. Standards should be established for the selection of targets and the collection of background information on targets based on security and effectiveness expected in different types of operations.

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